

Aggression Display by White-naped Honeyeaters.—On October 9, 1978 in the karri forest, Warren National Park at Pemberton, the following incident was witnessed. I was walking carefully in an area of fairly open understorey among karri near our campsite when a pair of White-naped Honeyeaters fluttered down in front of me almost at my feet. The two birds were locked in combat, it appeared, whilst a third bird of the same species perched a short distance away. My presence may have disturbed the two birds for they flew off, one closely followed by the other to some scrub about four metres away where the combat continued. The birds became locked together again using claws, wings and beaks both to hold and to strike each other and quickly fell to the ground. The third bird remained a short distance away observing the struggle.

The antagonists rolled about on the ground for several minutes, occasionally resting for short periods still locked together only to continue the desperate struggle after each pause. In this fashion, the two slowly approached me to within about 2.5 metres and appeared oblivious to all else.

As the two rolled into a shallow depression beneath a small log, they became separated and one emerged on the other side of the log and flew towards me. Its opponent followed closely. They met briefly on my bare head, locked again, and fell to my feet where the struggle continued. The pair were partly screened from me now by fallen twigs and leaves. This part of the incident was short and then after a brief pause of about 30 seconds, and another scuffle, the pair separated and flew off to different trees. The third honeyeater was not observed at this point. It was not possible at any time to distinguish the sexes of any of the birds. The whole sequence must have taken between five and ten minutes.

—K. GRIFFITHS, Parkerville.

Breeding behaviour in the atherine fish *Craterocephalus*.—There is little published observation of breeding behaviour of Australian marine fishes, apart from a few species which are popular as aquarium fishes, or have commercial importance.

During biological surveys of Barrow Island, W.A., I made one such record in Bandidoot Bay, a very large bay at the southern end of the island. The western side of this bay contains a senescent grove of the mangrove *Avicenna marina*. On February 10, 1977 while observing in these mangroves, I noticed unusual activity taking place among the submerged aerial roots of the mangrove. Closer investigation showed the whole area (approximately 50 metres) was massed with small fish, later identified from specimens as *Craterocephalus pauciradiatus* (Atherinidae). Each fish was about 350 to 400 mm in length and the group behaved in a manner reminiscent of the breeding run of the American Grunion.

As the tiny waves lapped the beach, the female buried her head in the sand at the wave edge, swimming and fanning vigorously, while the tail and body stood erect. This caused a "boil" of water and sandy mud, like a miniature volcano. Other fish joined this activity and added to the fanning which caused vigorous jets of water to be thrown into the air. As each wave ebbed fish were left stranded with tails flicking and heads standing above the water-line. Each fish "boil" contained 10 to 12 individuals. When disturbed they immediately wriggled back to the sea with none moving in the wrong direction.

The sand from the "boil" contained visible eggs slightly smaller than pinhead size. The activity was noted at 1826 hours on a falling tide. By 1900 hours there was no sign of any of the fish.

The only predation observed was by a Sacred Kingfisher *Haleyon sancta*. It repeatedly dived and took individuals which were beaten on the mangrove perch before being swallowed. Some fish were seen to have been taken by small crabs but whether these were alive or dead at time of capture I was not able to determine.

—W. H. BUTLER, Wanneroo.